SCHOOL OF PUBLIC HEALTH

COLLEGE OF MEDICINE AND HEALTH SCIENCES

UNIVERSITY OF GONDAR

TITLE: Assessment of Breast Self Examination (BSE) among female employee of university of Gondar with special reference to the application of Health Belief Model

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Abstract

Background: Breast cancer is the commonest malignancy in women and makes up 18% of all female cancers. One in 8 to 12 women has a life time risk of getting breast cancer. A large proportion of breast cancer patients in Ethiopia present for biomedical care too late, or not at all, resulting in high mortality.

Objective: This study mainly aimed at assessing breast self examination by applying health belief model for purpose of breast cancer screening among female employee of University of Gondar.

Methods: It was a cross-sectional institution based study used to assess the use of breast self examination for early screening of breast cancer. Data was collected using the structured self administered questionnaire prepared based on the modified Champions health belief model scales for breast self examination in women. Data was entered and analyzed using SPSS version 16. P value of 0.05 and 95 % Confidence interval were used.

Results: A total of 376 female employees responded to the administered questionnaire with a response rate of 93.3 %. The mean age of respondents is 31.3(+/-7.5) years and forty six percent (173) of employees had performed breast self examination regularly or irregularly. Being health professional is significantly associated with practice of breast self examination (chi square =10.1 and p value = 0.001). Using the multivariable analysis, perceived barriers (AOR= 0.89; 95 % CI = (.87, .97)), self efficacy (AOR=1.06; 95% CI= (1.022, 1.100)) and monthly income above 1000 birr (AOR=2.39; 95 % CI= (1.53, 3.69)) are associated with BSE. Those women with a monthly income above 1000 Birr are 2.4 times likely perform breast self examination as compared to whose monthly income less than 1000 Birr

Conclusion and recommendation: The practice of breast self examination is relatively higher where as those performing at correct monthly interval is lower**.** Strategies that will help in the detection of breast cancer at an earlier stage using feasible cost effective screening methods like breast self examination are an important intervention. Behavioural education that addresses perceived barriers and self efficacy of individuals are possible good interventions to have a regular practice of breast self examination.

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Abbreviations

AIDS: **A**cquired **I**mmuno- **D**eficiency **S**yndrome

AOR: **A**djusted **O**dds **R**atio

APPS: **A**frican **P**artnership for **P**atient **S**afety

BSE: **B**reast **S**elf **E**xamination

CBE: **C**linical **B**reast **E**xamination

COR: **C**rude **O**dds **R**atio

df: **D**egree of **F**reedom

ESOG: **E**thiopian **S**ociety of **O**bstetrician and **G**ynaecologists

FGAE: **F**amily **G**uidance **A**ssociation of **E**thiopia

Gyn/Obs: **G**ynaecology & **O**bstetrics

HBF: **H**ealth **B**elief **M**odel

HIV: **H**uman **I**mmunodeficiency **V**irus

NGO: **N**on- **G**overnmental **O**rganization

OPD: **O**ut**p**atient **D**epartment

PMTCT: **P**revention of **M**other to **C**hild **T**ransmission of HIV/AIDS

RCT: **R**andomized **C**ontrolled **T**rials

TOT: **T**rainer **o**f **T**rainees

USPSTF: **U**nited **S**tates **P**reventive **S**ervices **T**ask **F**orce

UoG: University **o**f **G**ondar

WHO: **W**orld **H**ealth **O**rganization

1. Introduction

1.1 Statement of the problem

Malignancies in women are major challenges to control and prevent even though they are common. Cancer is a leading cause of death worldwide, in 2007, accounted about 8 million deaths (around 13% of all deaths); and more than 70% of these deaths occurred in low and middle income countries and these figures are projected to rise rapidly, if no effective interventions are made(1). Cancers have great impact on physical, social, economical and emotional life of the suffering individual and his/her family along with a huge burden on health care system (2).

Breast cancer is an aggressive disease of women in both developed & developing countries. The aetiology of breast cancer is also not fully understood, but there is variety of interrelated factors, such as genetic factors, hormones, the environment, socio-biology and physiological factors. (6) Breast cancer is the commonest malignancy in women and makes up 18% of all female cancers. One in 8 to 12 women has a life time risk getting breast cancer (1,3). Breast cancer as it presents in advanced state needs a combination of surgery, chemotherapy, radiotherapy and hormonal therapy. Therefore it has an impact on economy considering both direct and indirect cost incurred due to the treatment and loss of productivity (4).

Breast cancer problem is compounded by different factors in less developed countries such as unavailability of screening tests, lack of awareness and very late at presentation. Although mass breast cancer screening by mammography has been proved to be efficacious in the developed nations of the world, this has not been replicated in the developing nations because mass screening is not yet possible for the reasons stated. Sub-Saharan Africa is much affected by the problem because of unavailability of mammography, clinical breast examination, poverty and illiteracy (5).

Early detection of breast cancer plays an important role in reducing its morbidity and mortality. Theoretically, a 95% survival rate could be achieved if this cancer was diagnosed at an early stage. Breast awareness, as a concept, is not always clear due to its confusion with breast self-examination (BSE). BSE is being the

mechanistic self-examination of the breast to detect an abnormality. Screening for breast cancer can encompass breast awareness, clinical breast examination and mammography. Recommended prevention techniques to reduce breast cancer mortality & morbidity include Breast self examination (BSE), clinical breast examination (CBE) & mammography. Unfortunately, few women actually examine themselves. In fact, the majority do not even know how to perform BSE (5).

Understanding women's beliefs regarding BSE can be used to design appropriate educational interventions which promote this screening behaviour. The health beliefs and experiences of women related to preventive behaviour must be understood within the cultural context (1, 5, 6). The Health Belief Model (HBM) is a psychosocial model that accounts for health behaviours by identifying factors associated with individuals' beliefs which influence their behaviours

The model suggests that changes in preventive health behaviour are originally based on six factors: (a) susceptibility: perceived personal vulnerability to or subjective risk of a health condition, (b) seriousness: perceived personal harm of the condition, (c) benefits: perceived positive attributes of an action, (d) barriers: perceived negative aspects related to an action (e) health motivation refers to beliefs and behaviours related to the state of general concern about health and (f) confidence is defined as the belief that one can successfully execute a behaviour that will then lead to a desirable outcome (5,6).

1.2 Literature review

Breast cancer is the most common cancer and contributes to a high rate of death among women worldwide (1, 5). It has been estimated that one out of every nine women living in western countries is likely to be afflicted by breast cancer in her lifetime. The incidence of breast cancer varies between countries; the highest rates occur in the United States and Canada and, the lowest rate is found in Asia. The Nordic countries have recently reported a steady increase in the incidence of breast cancer (6). . Breast cancer is showing a transition in its manifestation worldwide though it was more common in the western societies as compared to the rest of the world. Globally the clear increases in the incidence of, and mortality from breast cancer were observed in both developed and developing countries. The total number of new cases diagnosed annually exceeds one million and this is expected to reach 1.5 million by 2010 (6, 7).

The incidence rate of breast cancer among Asian women has also increased in recent years and is likely related to life style changes. The incidence of breast cancer increases significantly with age, such that the probability of a woman developing breast cancer in her 40s is one in 69, in her 50s one in 38, and in her 60s one in 27 (7, 8). The risk has an age incidence increasing dramatically after the menopause; however, 8000 women are diagnosed under the age of 50 each year. The incidence of breast cancer has increased over the past 30 years due to a variety of factors: better statistical reporting, better screening methods, women living longer, being exposed to carcinogens and changes in lifestyle. However, the mortality rate is decreasing, reflecting the benefits of early detection, screening and improvements in treatment. Breast cancer is the second leading cause of cancer death and accounts for 24% of female cancers in Turkey. In Egypt, breast cancer is the most frequently diagnosed cancer among women, and it comprises 25.5% of all cancers in that country (1, 8).

The incidence of breast cancer in sub-Saharan nations is increasing. There is a worsening scarcity of Human Resource for Health in Uganda in particular and Sub Saharan Africa in general. Resources available for health care are predominantly spent on infectious disease care such as (HIV/AIDS, Tuberculosis and Malaria).

These factors and more make the future of breast cancer care including screening in Sub Saharan African grim (9, 10).

A large proportion of breast cancer patients in Ethiopia present for biomedical care too late, or not at all, resulting in high mortality (9, 11). When breast cancer is detected in its early stages, the result is better prognosis, more successful treatment, and prolonged survival. In much of sub-Saharan Africa, however, many women do not seek medical attention until their cancer is very advanced. This late presentation for treatment leads to higher cancer mortality rates and a heavier cancer burden on these nations (9). As the global visibility and importance of breast cancer increases, especially in developing countries, ensuring that countries strengthen and develop health systems that support prevention, diagnosis, and treatment of a complex chronic disease is a priority (11,12).

Previously, the USPSTF concluded that there were insufficient data upon which to base a recommendation for BSE. Despite the absence of new data on this issue, the USPSTF now explicitly recommends against teaching women BSE arguing that it does more harm than good. The only two RCTs to directly study on this subject did not demonstrate a reduction in mortality. However, these studies were conducted in the former Soviet Union and in China in different cultures with different health system and different approaches to breast cancer treatment and control. The results from those trials, even if valid, cannot be extrapolated to a modern health system such as in the US and other countries in order to change a common sense practice that presents little risk or cost and for which we have countless instances where women practicing BSE detected their breast cancer months or even years before it would have likely come to medical attention (13). It is important to remember that BSE was sometimes a component of comprehensive breast screening programs making it difficult to entirely separate out the respective contributions of BSE, clinical exam and mammography (14).

Fortunately clinical breast examination (CBE) by trained health personnel, and possibly breast self-examination (BSE), in which women examine their own breasts monthly for changes or abnormalities, can be useful for early detection of cancer if performed correctly and require no sophisticated equipment. These behaviours

become especially important in countries like Ethiopia where mammography screening is not a viable option for the majority of the population (14, 15, 16). Women who are knowledgeable about breast cancer and its risk factors have been found in other settings to be more likely to comply with such early detection behaviours than those who are not. The limited data on Kenya, however, suggest that most women are unaware of the signs, symptoms, and causes of the disease (17).

Although there is controversy surrounding the efficacy of BSE in countries where mammography and clinical breast exams are readily available, elsewhere BSE remains a cost effective method to detect breast cancer. A woman who performs regular BSE may be more motivated to seek medical attention, including mammography and clinical breast exams if available (18, 19, 20). Given that Iranian breast cancer patients are relatively younger than their counterparts in western countries, breast cancer screening programs should be accorded more attention by public health professionals in Iran (5, 20). Despite the relative benefits of BSE, its application remains low. Studies conducted among different groups of women in United States, showed that monthly BSE rates ranged from 29% to 63%. A study conducted in Nigeria revealed that only 18.1% of participants reported regular application of BSE. Similar results were found among Iranian women with only 17% conducting regular BSE (5, 21,22). The researchers concluded that Iranian women did not know how to perform a BSE. Variables such as demographic characteristics, knowledge, and education influence the practice of BSE. Furthermore, a lack of belief regarding the necessity of regular BSE has an impact on the engagement of this screening behaviour (23, 24, 25). According to health belief model, individuals who perceive themselves as susceptible to a certain disease (perceived susceptibility), who perceive that the disease has potentially serious consequences (perceived severity), who believe that preventive actions will cause positive outcomes (perceived benefits), who perceive that barriers to taking preventive actions are outweighed by the benefits, and who believe that they are able to engage in a certain preventive health behaviour (self-efficacy), are more likely to engage in that health behaviour. This model has been widely used to examine beliefs related to breast cancer screening behaviours such as BSE (26, 27).

1.3 Justification of the study

For the following evidences, it is important to conduct the study:

- Breast cancer is one of commonest and serious malignancies in Ethiopia which presents at advanced stages that creates challenges for treatment. Earlier detection of breast cancer at an earlier stage is cost effective and has better patient survival .Because of economic constraints, mammography as a screening tool for breast cancer is not feasible. A cost effective and user friendly system of screening like breast self examination is easier to implement in countries with limited resources like Ethiopia.

- Having a base line data on the practice of breast self examination for detecting breast problems at an earlier stage had an input to health program mangers and implementers. Describing the most predictors among constructs of health belief model is of paramount importance to devise intervention based on it. Furthermore no similar study was conducted in the study area as well as in the region.

2. Study objectives

2.1 General objective:

This study mainly aims in assessing the practice and factors associated with breast self examination for purpose of breast cancer screening among female employees of Gondar University.

2.2 Specific objectives:

1. Determine practice of BSE among female employees of University of Gondar
2. Describe associated factors with BSE among female employees of Gondar University.

3. Methods and Subjects

3.1 Study Design:

A cross-sectional study was conducted at Gondar University from February 2011 to June 2011among female employees.

3.2 Study setting:

Gondar town is 720 kilometres away from the capital city of Ethiopia with a total population of about 230 thousands with females accounting to fifty percent. The Health institutions of Gondar town include a university hospital, three public health centres, one NGO reproductive health clinic and a good number of private health institutions. Gondar University is one of the oldest public institutions in Ethiopia providing training to health and non health students as an undergraduate as well as a postgraduate program. It has academic and non-academic staffs with its own well functioning university hospital.

3.3 Study period:

From February 2011 to June, 2011

3.4 Reference population:

This refers to the population of the female employees of the University of Gondar. There are 851 permanent female employees at University of Gondar.

3.5 Study subjects:

Female employees of university of Gondar who fulfilled the inclusion criteria and consented to participate in the study.

3.6 Sample size:

Using single proportion and maximize the sample size, taking probability p= 0.5 & q=0.5, α (level of significance)= 0.05, d (margin of error)= 0.05 and Z value of 1.96, the sample size is calculated

$$n = \frac{Z^2 (p) \times (q)}{d2}$$

= (1.96)2 (0.5)(0.5)

(0.05)2

= 384 subjects

Adding 5 % contingency for incomplete data or filling or missing data, the total sample size will be 384 + 19 = **403** subjects

3.7 Sampling Techniques:

A proportionate sample of health care and non-health care female employees of university of Gondar was selected to avoid the influence of health profession on their knowledge. As there is sampling frame of both categories at human resources directorate, study participants were selected using simple random sampling technique. A total of 79 health care workers and 297 non-health care workers ahs completely filled the administered questionnaires.

3.8 Variables of the study:

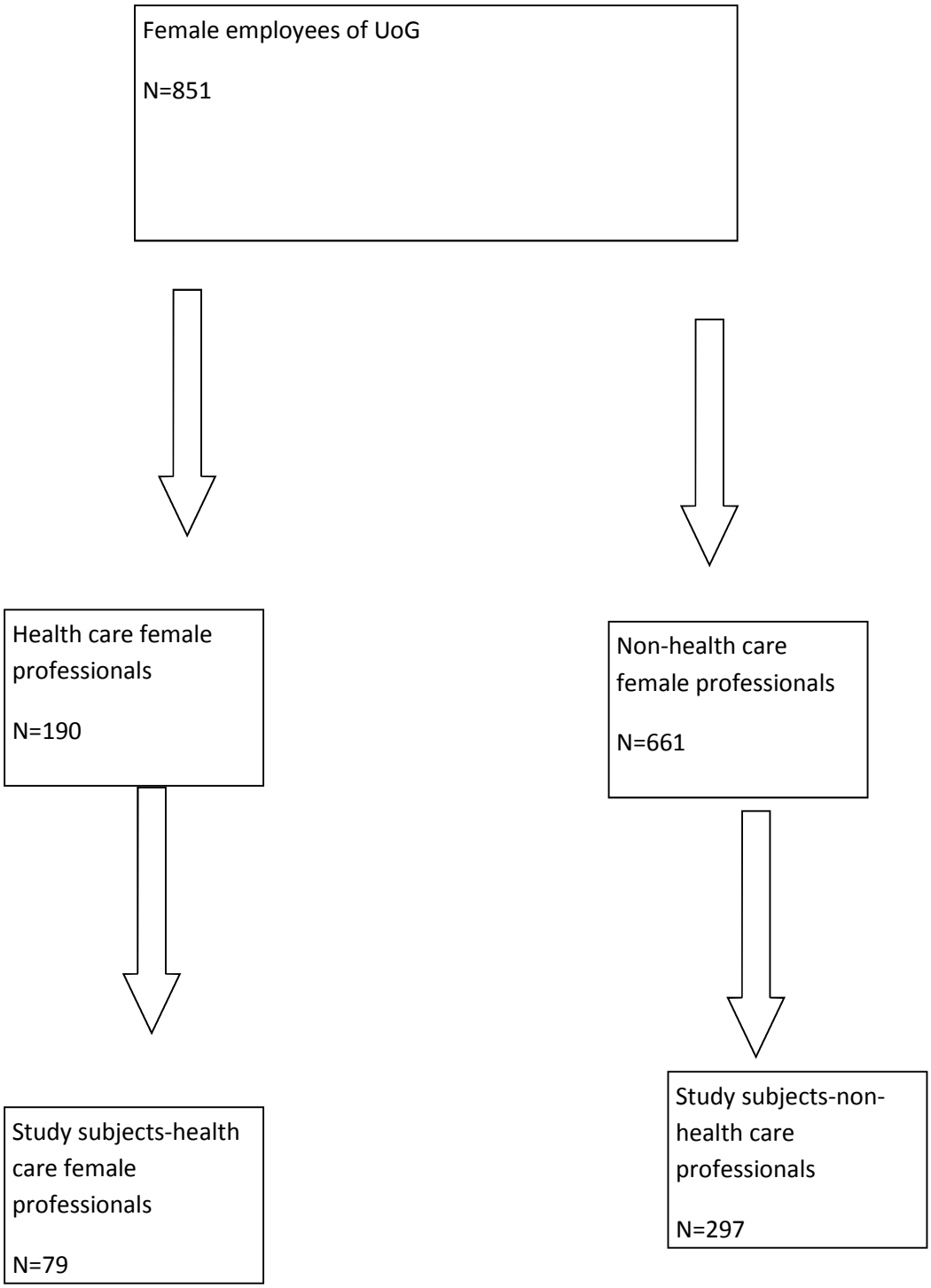
3.8.1 Dependent variable:

Practice of Breast self examination (BSE)

3.8.2 **Independent variables:**

Demographic characters (age, level of education, monthly income & marital status), perceived susceptibility, perceived severity, perceived benefits, perceived barriers and perceived self efficacy and motivation to action like information from mass media and family with breast cancer

Sampling scheme:



3.9 Inclusion criteria:

All female employees of the University of Gondar whose age is above 18 years and permanent employees of the University.

3.10 Exclusion criteria:

Those who cannot read & write, pregnant and lactating mothers and those diagnosed to have breast cancer or breast problems were not included in the study

3.11 Data collection technique:

A self administered structured questionnaire that was prepared in English later translated in to Amharic and back to English that has three parts incorporating demographic variables, five Likert scale based individual health belief model constructs and practice questions. The questionnaire was pretested on 20 female employees of Bahir Dar University which had a similar setup. The Champions health belief model scale was adapted for this study to measure all sub-scales except health motivation. The questionnaire consisted of 31 items. All items offered five response choices ranging from "strongly disagree (scores 1 point)" to "strongly agree (scores 5 points)". Higher scores indicated a positive attitude towards BSE except for barriers to BSE. Susceptibility of breast cancer consisted of three items scored from 3 to 15, seriousness of breast cancer consisted of six items scored from 6 to 30, BSE benefits consisted of four items scored from 4 to 20, BSE barriers consisted of eight items scored from 8 to 40 and BSE self-efficacy consisted of 10 items scored from 10 to 50. Motivation for BSE was not assessed in this study (25, 26 ,27).

3.12 Data Entry & analysis:

Data was cleaned, checked for completeness and entered to EPI info 2002 and analysis was made using SPSS version 16 statistical packages. Descriptive statistics, tables and graphs were used to present the results. Binary logistic regression and t –tests were used to describe some associations. Odds ratio and 95% confidence interval were used.

3.13 **Operational definition:**

Regular breast self examination: It is a technique that involves inspection and palpation of the breast of a female by herself in order to detect any abnormality, at least once in a month.

Clinical breast examination: It is a technique of that involves inspection and palpation of the breast by a health care provider to detect an abnormality by a health care provider.

4. Ethical considerations

Ethical clearance was obtained from the institutional review board and the school of public health ethics review committee. Formal letter of permission from university officials was obtained. Verbal consent from each participant was obtained and no identifier of study subjects was used in the questionnaire. The filled questionnaire was kept in a secure place that keeps confidentiality which is only accessible to research team. Those study participants who had low perception and practice towards breast self examination was taught by facilitators of data collection.

5. Results

5.1 Characteristics of study participants

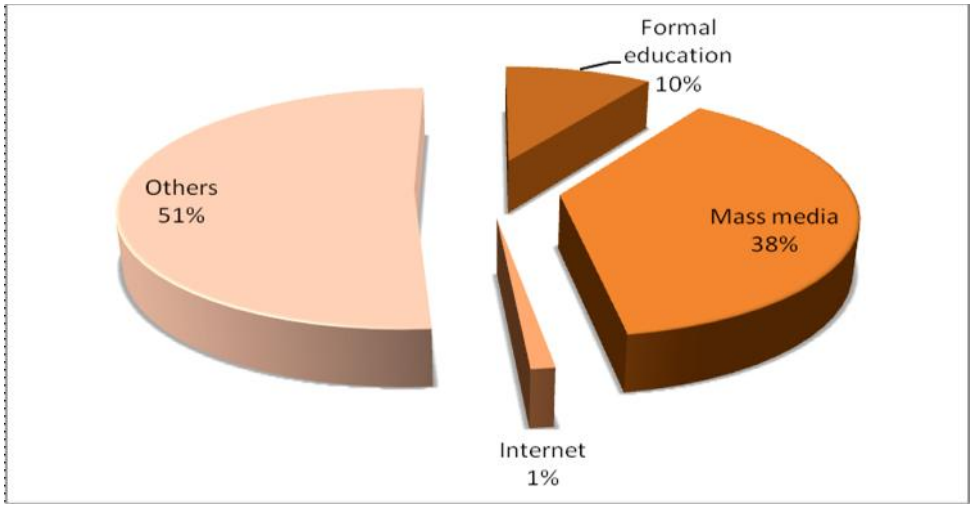
A total of 376 female employees were interviewed giving a response rate of 93.3 percent. The mean age of respondents was 31.3 (+/- 7.5) years ranging from 19 and 56 years. Majority of the respondents are orthodox Christian (92.6%) by religion. Nearly fifty five percent (206) of them were married. Twenty one percent (79) of respondents were health professional (Table 1).

Table1. **Characteristics of study participants of university of Gondar, June 2011 (n= 376)**

Item	Frequency	percentage
Marital Status		
Single	149	39.6
Married	206	54.8
others	21	5.6
Ethnicity		
Amhara	348	92.6
Tigre	14	3.7
Others	14	3.7
Religion		
Orthodox	348	92.6
Muslim	18	4.8
Catholic	4	1.1
protestant	5	1.3
others	1	0.3

Profession		
Health	79	21.0
Non-health	297	79.0
Educational level		
Elementary	13	3.5
Secondary	56	14.9
Vocational	54	14.4
Diploma	161	42.8
Degree	82	21.8
Masters and above	10	2.7
Monthly income		
≤ 500 Birr	83	22.1
501-1000 Birr	106	28.2
1001-1500 Birr	102	27.1
1501-2000 Birr	39	10.4
>2000 Birr	46	12.2

Fifty seven percent of them knew someone with breast cancer who died as a result of this and only 4.3% (16) of them had family history of breast cancer. About ninety five percent (356) of respondents have heard about breast cancer, the major source of information being informal source of information like seeing patients, informal talks (folks) accounting for 51.4 % (figure 1).



**Others include seeing patients, informal talks,*

Graph 1: Source of information about breast cancer among study participants in Gondar university, 2011 (n= 356)

5.2 Practice of Breast self examination

Forty six percent (173) of the respondents had performed breast self examination regularly or irregularly in the last one year of which only 32.2 % (121) had performed on a regular basis at least once in a month. When performing breast self examination is stratified according to profession, health care providers had higher proportion of breast self examination performance as compared to non health professionals (Table 2). Being health professional is associated with breast self examination (COR=2.28, CI (1.369, 3.793)).

Table 2: Performance of breast self examination according to their profession among female employees of University of Gondar, June 2011 (n=376)

Item	Performed BSE regularly or irregularly		Total
	Yes	No	
Health professional	49(62 %)	30(38%)	79
Non- health professional	124(41.7%)	173(58.3%)	297
Total	173	203	376

Opinions regarding the correct interval to perform breast self examination, nearly one third (32.2%) of the study participants have given the correct response of monthly interval (table 3).

Table 3. Opinions for correct interval to perform breast self examination among respondents, Gondar University, June 2011 (n=376)

Item	Frequency	Percentage
Daily	111	29.5
Monthly	121	32.2
Four times per year	18	4.8
Twice per year	14	3.7
Once per year	21	5.6
When feel sick	91	24.2
Total	376	100.0

5.3 Health belief model constructs and performance of breast self examination

Using an independent t-test, homogeneity for variance using Levene's test has confirmed the assumption of equal variances which has p values much greater than 0.05.According to the modified Champions health belief model scale, barriers and self efficacy have an association with self breast examination , with having a high score in self efficacy questions are likely to perform breast self examination and those with lower score in barriers are also likely to perform breast self examination. There is a significant difference in the mean scores among performs and non performers of breast self examination on total perceived barriers and self efficacy (table 4).

Table 4: Bivariate analysis between Health belief model constructs and performing BSE using an independent t test among female employees of University of Gondar June 2011 (n=376)

Item	Performed BSE		t*	P value
	Yes	No		
	Mean(SD)	Mean(SD)		
1. Susceptibility	6.93(2.47)	7.12(2.19)	-0.8	0.424
2. Seriousness	19.29(4.71)	19.14(4.49)	0.32	0.75
3. Benefits	15.41(3.28)	15.52(3.17)	-0.303	0.76
4. Barriers	15.44(4.06)	17.50(5.01)	-4.34	0.000*
5. Self-efficacy	31.28(6.3)	28.93(7.17)	3.35	0.001*

t*= an independent t test

Among the 31 modified champion's health belief model scales questions, association is evaluated to each specific question using an independent t test and those showing association were marked with asterisks (Table 5). Most of the questions of the perceived barriers and self efficacy have shown association with performing BSE. This means that higher score in questions of self efficacy are more likely to perform BSE. On the contrary, those having lower scores in perceived barriers are likely to perform BSE. There is a significant difference in the scores of performers of BSE versus non-performers of BSE in most items of the perceived barriers and self efficacy.

Table 5 Comparison of selected items of the Champions health belief model scales among performers and performers of BSE using an independent t-test, June 2011 (n=376)

Item	Performing BSE		t*	P value
	Yes (regular or Irregular) Mean (SD)	No Mean (SD)		
Barriers				
1. BSE is embarrassing to me	1.87(0.76)	2.10(0.98)	-2.57	0.01**
2. BSE takes too much time	1.98(0.71)	2.26(0.96)	-3.19	0.002**
3. It is hard to remember to do breast examination	2.12(0.80)	2.67(1.16)	-5.33	0.000**
4. I don't have enough privacy to do breast examination	1.89(0.65)	2.19(1.03)	-3.3	0.001**
5. BSE is not necessary if you have a breast exam by a healthcare provider	2.04(0.79)	2.26(0.94)	-2.36	0.19
6. BSE is not necessary if you have a routine mammogram	2.08(0.81)	2.26(0.94)	-1.92	0.056
7. My breast too large for me to complete BSE	2.03(0.78)	2.10(0.84)	-0.95	0.345
8. I have other problems more important than doing BSE	2.03(0.77)	2.14(0.85)	-1.29	0.197
Self efficacy				
9. I know how to perform BSE	3.86(0.85)	3.62(1.10)	2.28	0.023**
10. I can perform BSE correctly	3.46(0.99)	3.01(1.18)	3.98	0.000**
11. I could find a breast lump by performing BSE	3.56(1.01)	3.30(1.19)	2.27	0.024**
12. I am able to find a breast lump that is the size of a walnut	2.72(0.97)	2.74(1.16)	-0.19	0.85
13. I am able to find a breast lump that is the size of a hazelnut	3.24(0.99)	3.05(1.15)	1.72	0.086
14. I am able to find a breast lump that is the size of a pea	3.85(0.75)	3.51(1.04)	3.59	0.000**
15. I am sure of the steps to follow for doing BSE	3.15(1.01)	2.78(1.04)	3.52	0.000**

16. **I am able to tell something is wrong with my breast when doing BSE**	3.47(0.89)	2.89(1.11)	5.54	0.000**
17. **I am able to tell something is wrong with my breast when I look in the mirror**	2.75(1.02)	2.38(1.03)	3.5	0.001**
18. **I can use the correct part of my fingers when examining my breasts**	3.18(1.09)	3.02(1.06)	1.49	0.137

t*- independent t test value

5.4 Association of variables with breast self examination

Variables with univariate analysis having a p-value less than 0.2 were fitted in to logistic regression model. According to Hosmer and Lemeshow goodness of fit Test shows a significant value of 0.64 which is much higher than 0.05. Monthly income above 1000 Birr, barriers and self efficacy were associated with breast self examination. Using the multivariable analysis, perceived barriers (AOR= 0.89; 95 % CI = (.87, .97)), self efficacy (AOR=1.06; 95% CI= (1.022, 1.100)) and monthly income $\geq$ 1000 birr (AOR=2.39; 95 % CI= (1.53, 3.69)) are associated with BSE (Table 6).Those female employees of the university of Gondar monthly income 1000 Birr and above are 2.34 times likely to practice BSE than those earning less than 1000 Birr. An increase in the score of perceived barriers is 10 percent less likely to practice BSE.

Table 6: Multivariate analysis of explanatory variables to BSE among respondents, June 2011 (n=376)

Item	BSE		COR	AOR	95 % CI
	Yes	No			
Age					
<30 years	80	109	1		
≥30 years	93	94	1.348	1.485	(0.957, 2.303)
Educational level					
• Elementary, high school and vocational	42	81	1		
• Diploma	74	87	0.318	0.712	(0.341, 1.486)
• Degree & above	57	35	0.522	0.752	(0.421,1.343)
Monthly Income					
< 1000 Birr	64	125	1		
≥ 1000.00 Birr	109	78	2.73	2.39	(1.53, 3.69)
Perceived Barriers			0.91	0.89	(0.87,0 .97)
Self efficacy			1.08	1.06	(1.022, 1.100)

6. Discussion

Breast cancer is one of the major indications for surgery and adjuvant radiotherapy in Ethiopia. A large proportion of breast cancer patients in Ethiopia present for biomedical care too late, or not at all, resulting in high mortality (1, 2). Detection of breast cancer at an earlier stage has an input on prognosis and cost as well. However screening for breast cancer using mammography is almost unavailable in resource limited nations indicating a cost effective strategy to detect at an earlier stage of breast cancer (1, 2, 5). Having a cost effective and feasible strategy that would let to detect at an earlier stage would be best option. However, breast self examination is an option to screen breast cancer at an earlier stage with its limitations of creating anxiety and use of biopsy for benign breast problems (8,27).

Most of the study participants (94.7%) have heard about breast cancer irrespective of the source which is much higher than the Turkish women which was 75%. Ninety nine percent of Yemen students know about breast cancer. This may be due to the study setting differences and sample size. The study done in Pakistan is a community based one with probably lower level of literacy rate and small sample size (2, 5). Fifty seven percent of females in Karachi, Pakistan know about breast self examination signifying that they knew about breast cancer (3,4).

The percentage of performing breast self examination is 46% which is higher than the other studies conducted in Nigeria (11%), Turkish (40.6%)and Iran (31.7%) and lower than the Turkish Academician Staffs Turkey(50.9%) (5, 6, 7, 8). Probably this may be due to differences in the study setting and study period. The study in Iran is a health facility based study where most of respondents are coming from the community whereas the study in this setting is on health professionals and staffs at the university which could be higher literacy level and good understanding of the matter. However the study in Turkish female academicians has comparable study participants with the exception of involving health care workers and non-academic staffs in this study setting. Only 32 % of the study participants has performed breast self examination correctly on monthly interval basis as compared to 7.1 % of the

health institution based study of Iran (5). This could probably be due to differences in study participants in the level literacy and the study period.

Among the constructs of Modified Champion's Health Belief model constructs when they were evaluated alone with association breast self examination, perceived barriers and self efficacy were associated with the performance of breast self examination which is consistent with the studies done in Iran and turkey (5, 9). Those having higher a total score in self efficacy and those having lower score in perceived barrier are likely to perform breast self examination. This implies that strategies that address issues like perceived barrier and self efficacy will be of much importance as compared to other constructs. However, the health belief model suggests that perceived susceptibility and seriousness were more predictors than the perceived barriers and self efficacy. Probably this difference may be due a gap in knowledge in study participants. More over the items in perceived seriousness and susceptibility are few as compared to other constructs of the health belief model. However, according to a study done in Addis Ababa using a mixed method assessment about breast cancer shows that breast cancer patients clearly understood the seriousness of the disease. Though the seriousness of the disease was understood, the study has shown clearly a gap in knowledge that explains absence of association in perceived susceptibility and seriousness (11, 12).

When different explanatory variables were fitted in to logistic regression model to predict breast self examination, perceived barriers (AOR= 0.89; 95 % CI = (.87, .97)), self efficacy (AOR=1.06; 95% CI= (1.022, 1.100)) and monthly income $\geq$ 1000 birr (AOR=2.39; 95 % CI= (1.53, 3.69)) are associated with practice of breast self examination. Those women with a monthly income of more than 1000 birr were 2.4 times more likely to perform BSE as compared to those earning less than 1000 Birr. An increase of a score in self efficacy will be likely to perform 1.06 as compared to those not performing breast self examination. The results of this study is consistent with the studies conducted in Iran, Turkish and Malaysia which mainly also include issues clinical breast examination and mammography but not similar with other studies that show that perceived susceptibility and seriousness are more predicting (13,15). However level of education, marital status and age were no significantly associated with the practice of breast self examination (23,24). The difference in the

finding among the predictors of health belief model constructs may be probably due to difference in the cultural and other geographic differences. Therefore there may variation on prediction of breast self examination for the purpose of breast cancer screening on different situations like geography, culture, study time and educational status of study participants. Though there are reservations regarding the use of breast self examination for breast cancer screening, it is a cost effective and feasible tool in resource constrained nations like Ethiopia (21, 22, 26, 28). Thus it will be of paramount importance to address health behaviours addressing the issue of barriers and self efficacy to BSE as a strategy to detect breast problems where mammographic mass screening a farfetched option (13).

7. Strengths and Limitation of the study

7.1 Strengths of the study:

- Being the first of in type in applying health belief model application for screening breast cancer using breast self examination.
- Involvement of preventive aspects of a serious disease like breast cancer that affects major bulk of female population.
- Involving both health care workers and non-health care workers was also the strength of this study.

7.2 Limitations of the study

- Lack of using a qualitative method for exploration purposes about the health belief model scales is a shortage in the methodology.
- Being an institution based study does not reflect the community, thus it is a bit difficult to generalize to the community.

8. Conclusion

- Relatively the practice breast self examination was high. However, those who perform on monthly basis were lower.
- Among the constructs of Champion's health belief model scales, perceived barriers and self efficacy were associated with the practice of breast self examination. Lower score in perceived barrier and higher score in self efficacy were likely associated with the practice of breast self examination.
- Multivariable analysis of the explanatory variables have shown that monthly income more than 1000 Birr, higher self efficacy score and lower perceived barrier were associated with the practice of self breast examination.

9. Recommendations

To policy makers:

- Give relatively more emphasis to preventive and promotion aspects of serious health problems like breast cancer by using mass media and health journals to discuss about it and possible screening methods such as BSE

District health managers:

- District health managers need to focus on increasing an awareness of the community about breast cancer screening methods.
- Health institutions need to have health education about breast cancer and prevention strategies

Medical and health science schools:

- Medical schools need to include in preventive and promotion aspects health to teach about breast cancer and use of breast self examination as one screening modality for detecting breast problems

Gondar University:

- The practice of breast self examination was relatively high, however those who perform on monthly basis was lower. Thus the University need to have programs to address serious health issues like breast cancer to employees.

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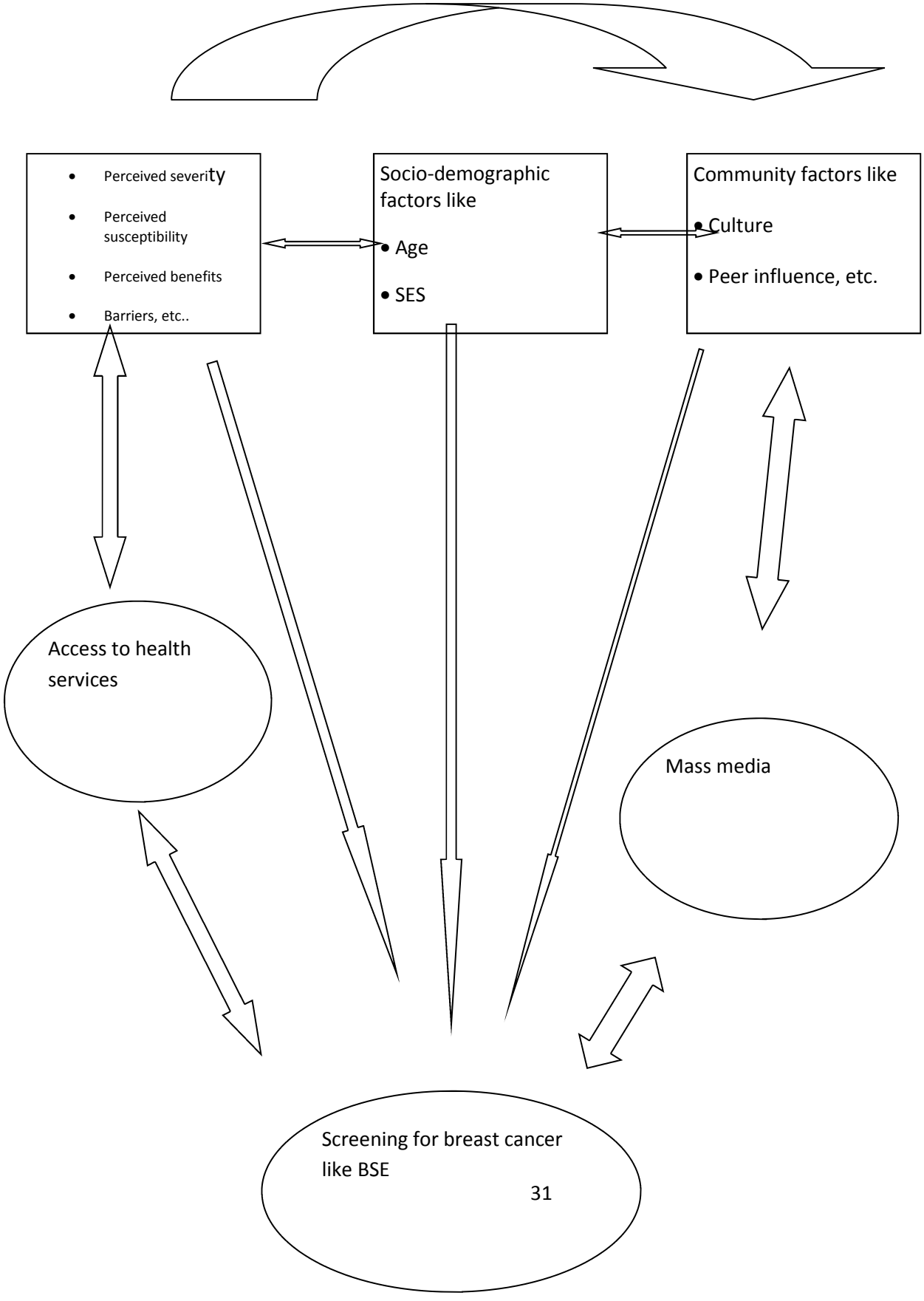
11. Annexes

Annex 1: Conceptual Framework



Annex 2: Questionnaire in English

Consent form

Hello! My name is …….. I am here on behalf of Dr. Birhanu Sendek, senior MPH student of the School of Public Health in the University of Gondar. He is conducting a research for the partial fulfilment of masters degree on “assessment of breast self examination among female employees of University of Gondar”. He has received permission from school of public health at university of Gondar, human resource and respective heads of each department to conduct this study.

The main part of the study involves collecting information from employees like you. You were selected for the study because you female employees with the hope that you will cooperate with us. We are kindly requesting you to answer the questions that we have prepared for you.

We assure all information gathered during the course of the study will be kept completely confidential. All the information that you are going to deliver to us will be coded for anonymity. Only the principal investigator and the research assistants collecting the data will have access to the data.

Would you be willing to participate? Yes …….1 No …….2

Having been well explained and informed of the intentions and benefits of the study, I voluntarily consent to participate in the study.

Interviewer name Sign. Date

_____ _____ _____

I. Socio-demographic variables:

Ser. No	Variable	Value
1	Age	.....
2	Address	1. Urban 2. Rural
3	Level of Education	1. Elementary 2. Secondary schools 3. T VT diploma 4. Diploma 5. Degree 6. 2nd Degree 7. 3rd degree (PhD) 8. Other (specify).....
4	Marital status	1. Single 2. Married 3. Divorced 4. Widowed 5. Other (specify).....
5	Religion	1. Orthodox 2. Muslim

		3. Catholic 4. Protestant 5. Others (specify).....
6	Ethnic group	1. Amhara 2. Tigre 3. Oromo 4. Others (specify).....
7	Occupation (include Qualification)	.....
8	Income	1. < 500 Birr /Month 2. 501-1000 Birr/month 3. 1001-1500 Birr 4. 1501-2000 Birr 5. > 2001 Birr (specify).....

II. Perception and attitude questions that address the health belief Model

A. susceptibility

Question	Value
1.It is likely that I will get breast cancer	1. Strongly Disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree
2. My chances of getting breast cancer in the next few years are great	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree
3.I feel I will get breast cancer sometime during my life	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree

B. Seriousness

4. The thought of breast cancer scares me	1. Strongly disagree 2. Disagree 3. Equivocal 4. Agree 5. Strongly agree
5.When I think about breast cancer, my heart beats faster	1. Strongly disagree 2. Disagree 3. Equivocal 4. Agree 5. Strongly agree
6.I am afraid to think about breast cancer	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree
7.Problems I would experience with breast cancer would last a long time	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree

8.Breast cancer would threaten a relationship with my husband	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree
9.If I had breast cancer my whole life would change	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree

C. Benefits

10. When I do BSE, I am doing something to take care of myself	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree
11. Completing BSE each month may help me find breast lumps early	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree

12. Regular BSE decreases the rate of death from breast cancer	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree

D. Barriers

13. If I find a lump early through BSE, my treatment for breast cancer may not be as bad	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree
14. BSE is embarrassing to me	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree
15. BSE takes too much time	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree

16. It is hard to remember to do breast examination	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree
17.I don't have enough privacy to do breast examination	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree
18.BSE is not necessary if you have a breast exam by a healthcare provider	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree
19.BSE is not necessary if you have a routine mammogram	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree

20. My breast is too large for me to complete BSE	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree
21. I have other problems more important than doing BSE	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree

E. self efficacy

22. I know how to perform BSE	1. Strongly disagree 2. Disagree 3. No Opinion 4. Agree 5. Strongly agree
23. I can perform BSE correctly	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree

24. I could find a breast lump by performing BSE	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree
25. I am able to find a breast lump that is the size of a lentiles	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree
26. I am able to find a breast lump that is the size of a beans	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree
27. I am able to find a breast lump that is the size of a pea	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree

28. I am sure of the steps to follow for doing BSE	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree
29. I am able to tell something is wrong with my breast when doing BSE	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree
30. I am able to tell something is wrong with my breast when I look in the mirror	1. Strongly disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree
31. I can use the correct part of my fingers when examining my breasts	1. Strongly Disagree 2. Disagree 3. No opinion 4. Agree 5. Strongly agree

VI. Cues to Action 1. Have you heard of breast cancer?	1. Yes 2. No
2. If answer is yes, source of information (specify)	.....
3. Any family history of breast cancer?	1. Yes 2. No
4. Did you know a person with breast cancer?	1. Yes 2. No
5. Have you ever felt a lump on your breasts?	1. Yes 2. No

III. Practice Questions

Ser. No	Question	Value
1	Have you performed BSE in the last one year?	1. Yes 2. No
2	If yes is the answer to above question, how frequent have you done it?	1. monthly 2. Quarterly 3. Every 6 months 4. Annually 5. When feel sick

3.	When do you say BSE is regular regarding to frequency?	1. Daily 2. Monthly 3. Quarterly 4. Every6 months 5. Annually 6. When feel sick

የፈቃደኝነት ቅጽ

ጤና ይስጥልኝ ስሜ ..... ይባላል፡፡

እኔ ዶ/ር ብርሃኑ ሰንደቅን በጎንደር ዩኒቨርሲቲ ውስጥ በህብረተሰብ ጤና ትምህርት የመጨረሻ የማስተርስ ተማሪ የሆኑትን በመወከል ነው፡፡ የማስተርስ ዲግሪያቸውን ለማጠናቀቅ በሚያካሂዱት ጥናት " የጎንደር ዩኒቨርሲቲ ቋሚ ሴት ሠራተኞች ጡትን በራስ መመርመርን መገምገምና የሚወስኑትን ምክንያቶች መፈለግ " ሲሆን ለዚህም ጥናት በዩኒቨርሲቲው ፈቃድ አግኝተዋል፡፡

የጥናቱ ዋና ክፍል ከቋሚ ሴት ሠራተኞች በራስ በሚሞላ መጠይቅአማካኝነት መረጃ መሠብሠብ ሲሆን ያደረጉትን አስተዋጽኦ ከፍተኛ መሆኑን እየገለጽኩ ላመሰግንዎት እወዳለሁ፡፡ መጠይቁን በጥንቃቄ እንዲሞሉልን በትህትና እንጠይቃለን፡፡

ለሚሠጡን መልስ ሙሉ በሙሉ ሚስጢራዊነቱን የጠበቁ መሆኑንና ምንም ዓይነት የመለያ ምልክት ለምሳሌ እንደ ሥም ያሉ መጠይቁ ላይ አይሞሉም፡፡ መረጃው የሚታየው በተመርማሪ ቡድን በቻ ነው

ለመሣተፍ ፈቃደኛ ነዎት?

1. አዎ
2. የለም

ስለ ጥናቱ አላማ መረጃ ከተሠጠ በኋላ ስለጥቅሙ ካወቅኩ በኋለ በፈቃደኝነት በጥናቱ ለመሣተፍ ተስማምቻለሁ፡፡

ጠያቂ	ፊርማ	ቀን
_____	_____	_____

ቃለ መጠይቅ

ክፍል 1 አጠቃላይ መረጃ

ተ.ቁ	ጥያቄ	መልስ
1	እድሜ	..... ዓመት
2	አድራሻ	1. ከተማ 2. ገጠር
3	የትምህርት ደረጃ	1. አንደኛ ደረጃ 2. ሁለተኛ ደረጃ 3. ቴክኒክና ሙያ 4. ዲኘሎማ 5. ዲግሪ 6. ሶስተኛ ዲግሪ 7. ሌላ ይጠቅስ) _____
4	የጋብቻ ሁኔታ	1. ያላገባች 2. ያገባች 3. የፈታች 4. ባሏ የሞተባት 5. ሌላ (ይጠቅስ)_____
5	ኃይማኖት	1. ኦርቶዶክስ 2. ሙስሊም 3. ካቶሊክ 4. ኘሮቴስታንት 5. ሌላ (ይጠቅስ)_____
6	ብሔር	1. አማራ 2. ትግሬ

		3. ኦሮሞ 4. ሌላ (ይጠቅስ)_____
7	ሥራ / ሙያ	…….. …….
8	የወር ገቢ	1. 500 ብር በታች 2. ከ501 - 1000 ብር 3. ከ1001 — 1500 ብር 4. ከ1501 - 2000 5. > 2001 (ይጠቅስ).....

ክፍል 2 መደበኛ ጥያቄዎች

ተ.ቁ	ጥያቄ	መልስ
1.	የጡት ነቀርሳ (ካንሰር) ህመም የመያዝ እድሌ ከፍ ያለ ነው	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ
2	በጥቂት አመታት በጡት ነቀርሳ (ካንሰር) መታመሜ ከፍተኛ ነው። በሚቀጥሉት ዓመታት እድሌ ከፍተኛ ነው	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ
3	በህይወት ዘመኔ በጡት ነቀርሳ (ካንሰር) ህመም እንደመያዝ ይሠማኛል	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ
4	<u>ለ. አደገኛነት</u> ስለጡት ነቀርሳ (ካንሰር) ማሠብ በጣም ያስደነግጠኛል	1. በጣም አልስማማም 2. አልስማማም

		3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ
5	ስለጡት ነቀርሳ (ካንሰር) ባሰብኩ ቁጥር የልቤ ምት ይፈጥናል	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ
6	ስለጡት ነቀርሳ (ካንሰር) ሳስብ እፈራለሁ	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ
7	በጡት (ካንሰር) ምክኒያት ሊያጋጥሙን የሚችሉ ችግሮች ረጅም ጊዜ ይወስዳሉ	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ
8	የጡት ነቀርሳ (ካንሰር) ከትዳር ጓደኛዬ ጋር ያለኝን ግንኙነት አደጋ ላይ ሲጥለው ይችላል	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ

ተ.ቁ	ጥያቄ	መልስ
9.	በጡት ነቀርሳ (**ካንሰር**) ህመም ብያዝ ህይወቴ ሙሉ በሙሉ ይለወጣል	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ
10.	**<u>ሐ.ጥቅሙ</u>** የራሴን ጡቶች ምርመራ ባከናውንኩ ጊዜ ለራሴ እንክብካቤ ማድረግ ነው፡፡	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ
11	በየወሩ ጡቶቼን መመርመር ጠጣር ነገሮችን በቅድሚያ ለመለየት ይረዳኛል	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ
12.	በየጊዜው የራስን ሙት መመርመር በጡት ካንሰር የሚመጣ ሞትን ይቀንሳል	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ
13.	**<u>መ . መሰናክሎች</u>** የራሴን ጡት በመመርመር ጠጣር ነገር ቀድሜ ብለይ የጡት ካንሰር ህክምናው የከፋ ላይሆን ይችላል	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ

14	በራሴ ጡቶችን መመርመር ያሳፍረኛል	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ
15	በራሴ ጡቶቼን መመርመር በጣም ጊዜ ይወስዳል	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ
16	አስታውሶ የራስን ጡት መመርመር ያስቸግራል	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ
17	የራሴን ጡት ለመመርመር ምቹ ሁኔታ የለም	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ

ተ.ቁ	ጥያቄ	መልስ
18	በጤና ሙያተኛ ከተመረመርኩ፣ በራሴ ጡቶቼን መመርመር አስፈላጊ አይደለም	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ

		5. በጣም እስማማለሁ
19	የጡት ራጅ ከተነሡ በራስ ጡቶችን መመርመር አስፈላጊ አይደለም	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ
20	ጡቶቼ ትልቅ ስለሆነ በራሴ ጡቶቼን መመርመር <u>ለማጠናቀቅ</u> ከባድ ነው	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ
21	ጡቶቼን በራሴ ከመመርመር በላይ ሌሎች ችግሮች አሉብኝ	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ
22	<u>**ሠ. በራስ መተማመን**</u> ጡት በራስ እንደሚመረመር አውቃለሁ	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ
23	በራሴ ጡቶቼን በትክክል መመርመር እችላለሁ	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ

24	በራሴ ጡቶቼን በመመርመር ጠጣር ነገርን መለየት እችላለሁ	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ
25.	በራሴ ጡቶቼን መመርመር የምሥር ፍሬ ያክል እጢ ማግኘት እችላለሁ	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ
26	በራሴ ጡቶቼን በመርመር አተር ፍሬ ያክል እጢ ማግኘት እችላለሁ	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ

ተ.ቁ	ጥያቄ	መልስ
27	በራሴ ጡቶቼን በመመርመር ባቄላ ፍሬ የሚያክል እጢ ማወቅ እችላለሁ	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ
28	በራሴ ጡቶቼን ለመመርመር የሚያስፈልጉ ቅድመ ተከተሎች በትክክል አውቃለሁ	1. በጣም አልስማማም 2. አልስማማም

		3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ
29	በራሴ ጡቶቼን ስመረምር ያለውን ችግር መለየት እችላለሁ	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ
30	በመስታውት በመመልከት ጡቶቼን ላይ ያለው ችግር መለየት እችላለሁ	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ
31	ጡቶቼን ለመመርመር ትክክለኛ የጣት ክፍሎች እጠቀማለሁ	1. በጣም አልስማማም 2. አልስማማም 3. ሃሳብ ለመስጠት እቸገራለሁ 4. እስማማለሁ 5. በጣም እስማማለሁ
	<u>ረ. ለመተግበር ተምሳሌት</u>	
1.	ስለጡት ነቀርሳ **ካንሰር)** ሠምተው ያውቃሉ	1. አዎ 2. የለም
2.	መልሠዎ አዎ ከሆነ ፣የመረጃ ምንጩን ይግለጹ	.....
3	ከቤተሠብ ውስጥ የጡት ነቀርሳ **(ካንሰር)** የታመመ አለ ወይም ነበር?	1. አዎ 2. የለም

4	አዎ ከሆነ መልሠዎን፣ይግለጹ	1. አዎ 2. የለም
5	በጡት ካንሠር የታመመ ሠው ያወቃሉ	1. አዎ 2. የለም
6	ጡትዎ ጠጣር ነገር ነክተው ያውቃሉ	1. አዎ 2. የለም

ክፍል 3 የተግባር ጥያቄዎች

ተ.ቁ	ጥያቄ	መልስ
1	በራስ ጡቶቼን መመርመር ባለፈው አንድ ዓመት ውስጥ አከናውኛለሁ	1. አዎ 2. የለም
2.	መልሠዎ አዎ ከሆነ በምን ያክል ጊዜ ገደብ?	1. በየወሩ 2. በየሩብ ዓመት 3. በመንፈቅ ዓመት 4. በዓመት አንድ 5.
3	ትክክለኛ በራስ ጡቱን የመመርመር የጊዜ ገደብ	1. በየቀኑ 2. በየወሩ 3. በየሩብ ዓመት 4. በመንፈቅ

		5. በዓመት 6.

Declaration

I, the undersigned, senior general public health student declare that this thesis is my original work in partial fulfillment of the requirement for the degree of Master of Science in Public Health.

Name: Dr. Birhanu Sendek

Signature: _____

Place of submission: School of public Health, College of Medicine and Health Sciences, University of Gondar.

Date of Submission: _____

This thesis work has been submitted for examination with my/ our approval as university advisor(s).

Advisors

Name	Signature
Ato Telake Azale	_____
Dr. Getu Degu	_____

ASSURANCE OF INVESTIGATOR

The undersigned agrees to accept responsibility for the scientific, ethical and technical conduct of the research project and for provision of required progress reports as pre terms and conditions of the research and publications office of the University of Gondar.

Dr. Birhanu Sendek

Date:_____ Signature: _____

Approval of the advisor (s)

Advisors

Name	Signature	Date
1. Ato Telake Azale	_____	_____
2. Dr. Getu Degu	_____	_____